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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,102	02/04/2004	Subject Kumar	2950.21 US02	4854

7590 12/20/2005

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EXAMINER
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KOSLOW, CAROL M

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/772,102

Applicant(s)

KUMAR, SUJEET

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-20, 23-28 and 32-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 October 2005 has been entered.

The amendment to the claims have overcome the 35 USC 112 rejections, the art rejections based on U.S. patent 6,645,398 over claims 16, 21, 22, 27, 29 and 31 and the art rejections over U.S. patents 6,699,406; 5,279,801 and 6,039,894 and WO 00/66485. Applicant's arguments with respect to the remaining rejections have been fully considered but they are not persuasive.

Claim 16 is objected to because of the following informalities: In line 4 of this claim, "metal/" was not deleted as it was in the rest of the claim. Appropriate correction is required.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 18-20, 24-26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 6,645,398.

This reference teaches a collection of metal sulfide phosphor particles having an average particle size in the range of about 100 nm up to about 5 microns, where at least 95 % of the particles are not larger than 1.5 times the average particle size (col. 38, lines 1-25). Thus the taught average size range and maximum size range overlaps the claimed ranges. Column 35, line 29 through column 36, line 20 and table 1 teaches the metal

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sulfide can be rare earth doped metal sulfide, where amount of dopant is 0.02-15 at%, which is the same as mole percent in phosphors. This range overlaps the claimed range. The exemplified sulfides include cerium doped strontium sulfide, europium doped calcium and/or strontium sulfide and rare earth metal doped zinc sulfide.

Applicants argue the reference does not teach a collection of particles with essentially no particle greater than 5 times the average diameter. The reference teaches that at least 95% of the particles are not larger than 1.5 times the average diameter. This range overlaps the claimed range since it includes a collection where 100% of the particles are not larger than 1.5 times the average diameter. The amount of 100% falls within the claimed range of essentially no particles and 1.5 times the average diameter and less falls within the claimed range of 5 times the average particle diameter and less. Thus this argument is not convincing.

Applicants make the statement that because the particles in the reference can be composed of crystallites, the reference does not have the sharp cut off in particles as defined in claim 18. Applicants have not presented explanation as to why this embodiment does not have the taught sharp cutoff in particles size, which is at least 95% of the particles have a size of not greater than 1.5 times the average diameter, as opposed to the taught single crystal particle embodiment. Column 38, lines 26-32 teaches the particles are either single crystal particles or are composed of fused large crystallites. The rejection is maintained.

Claims 1-14 and 33-40 are allowed for the reasons given in the previous actions.

Claim 16 would be allowable if rewritten or amended to overcome the objection set forth in this Office action.

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Claims 17, 23, 27 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1-14, 23 and 33-37 are allowable for the reasons given in the previous actions. Claims 38-40 are allowable since they depend from allowable claim 33. There is no teaching or suggestion in the cited art of record of producing metalloid sulfide particles having a particle size of less than about 500 nm by the process in claims 16, 17, 27 and 28.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorenzo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk  
December 14, 2005

  
C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700